

A NEW SPECIES OF SEGMENTINA.

 BY BRYANT WALKER.

SEGMENTINA CRASSILABRIS n. sp., Pl. VII, figs. 4-6.

Segmentina wheatleyi, Witter, J. of Conch., I, 388 (1878).

“ “ ? Walker, Naut. VI, 137 (1893).

“ “ Walker, Rev. Mich. Moll., 18 (1895).

Shell dextral, broadly umbilicate, planorboid, smooth, slightly wrinkled by subobsolete growth lines and microscopic transverse lines and undulations; light horn colored; whorls $4\frac{1}{2}$, regularly increasing, those of the apex flattened and concavely depressed, antepennant and body whorl rounded above, the latter deflected and slightly expanded towards the aperture, and sharply contracted at the lip, forming an obtuse crest just behind the edge of the lip, obtusely angled below, around the deep, subfunicular umbilicus; aperture oblique, subtriangular, greatly contracted by a heavy callous ridge just within the lip, the face of which is concave, the edge of the lip being sharp and black; the extremities of the labial ridge are connected by a slight callus across the parietal wall; apertural lamellæ six; two parietal and four (palatal) on the outer wall. The principal parietal lamella is a thin, broad, sigmoid blade rising from the lower third of the parietal wall, and extending upward and backward nearly to the suture, it is widest in the center, the anterior extremity is subtruncate and rather abruptly bent outwards, posteriorly it slopes gradually to its termination; below this and just behind the curve in the anterior portion and about halfway between it and the base is a short, sharp denticle projecting obliquely forward and downward; the lower palatal fold extends transversely nearly across the entire base of the whorl and is a low, strong fold, the upper surface of which is parallel with the base, the inner extremity is opposite the lower parietal lamella and rises abruptly at right angles to the base, the outer extremity is rounded and bent forwards, sloping down to its termination, viewed externally the base of this fold roughly resembles a figure-7; immediately above this, about halfway between it and the lower extremity of the third palatal fold, and about at the periphery of the whorl is a short, trans-

versely diagonal lamella, the anterior end of which is lower than the posterior, which is slightly bent upwards; above the anterior extremity of this fold is the third palatal fold, a short, slightly oblique lamella, the posterior end of which is slightly curved backwards and slopes more gradually to its termination than the anterior extremity; above this and at its posterior extremity is a short, transverse denticle, which lies immediately below the superior arch of the whorl.

Alt. 3, greater diam. $7\frac{1}{2}$, lesser diam. 6 mm. Types (No. 2998 coll. Walker) from Hamtramck, Wayne Co., Mich. Also from Kent and Monroe counties, Mich.; Muscatine, Ia.; Knox county, Vincennes and Brownston, Ind.

This very distinct species was first seen in 1878, when specimens from Muscatine, Ia., were received from Prof. F. M. Witter, labelled *S. wheatleyi* Lea, on the authority of the late Dr. Jas. Lewis. Subsequently, when the species were detected in Michigan, in reliance on this identification it was so listed in the two papers cited above. The recent receipt of the true *S. wheatleyi* from Princeton and Boligee, Alabama, collected by H. H. Smith and A. A. Hinkley, has shown that the reference of this form to that species was erroneous.

Although occupying an intermediate position between the well-known *S. armigera* and *S. wheatleyi*, *crassilabris*, is quite distinct from either. In external appearance, compared with *armigera* (Fig. 1-3), it is smaller and more compactly coiled and higher in proportion to its width, the umbilicus is smaller and deeper, and the angulation of base of the whorl around the umbilicus more pronounced. In *armigera*, the whorls are more regularly rounded and the aperture lacks the crest behind the lip, and is not at all contracted, the thickening within the lip is very slight and does not sensibly diminish its calibre. In *wheatleyi* (Fig. 7-9) the distinctive features of *crassilabris* are all intensified. The apical whorls are more depressed, the body-whorl is obtusely angulated above and sharply carinated around the umbilicus, which is funicular, the inner whorls scarcely, if at all, protruding beyond the curve of the body-whorl; the aperture is more oblique and more contracted in front of the crest, which is more prominent. The inner ridge of callus is less developed and lacks the regular concave slope to the edge of lip characteristic of *crassilabris*.

As recently stated by Pilsbry and Ferriss (Proc. A. N. S. P., 1906, p. 166) in regard to *S. armigera* and *wheatleyi*, the arrange-

ment of the apertural lamellæ in these three species is fundamentally the same. Their number, position and character are the same in all. The differences, which are, however, specifically characteristic, are only in the degree of development.

In *armigera*, the principal parietal lamella is much shorter, less oblique and its anterior end is less curved and truncated than that of *crassilabris*, the palatal folds are all less developed, and the spaces between them consequently greater; the upper extremity of the basal fold is less deflected and scarcely noticeable externally. In both these species, there is a marked tendency to develop an additional fold in connection with the central palatal giving it a V-shape, which is quite noticeable from the exterior.

In *wheatleyi*, the position of the principal parietal lamella is more like that of *armigera* than of *crassilabris*, being, taken as a whole, less oblique and the anterior end is less bent forward than in the latter species, but the posterior extremity is more prolonged than in *armigera*, and is continued for a short distance parallel with the suture; the basal palatal is much wider than in either of the other species and is abruptly contracted at its base, while the upper extremity is deflected as in *crassilabris*; the second palatal fold is remarkably developed, rising abruptly near the base of the whorl; it runs back for a short distance parallel with the base, and curves upward, terminating just below the superior carina, having much the shape of a boomerang. The third palatal is only slightly oblique, the lower end is bent backwards and close to the upper extremity is a small knob, not sufficiently differentiated from it to be called a distinct denticle, but evidently similar to the accessory fold noticed in the other species; the upper extremities of this fold and of the basal palatal are about on the same level. The fourth palatal is situated directly under the superior carina and is a short, straight, transverse, club-shaped fold, the posterior extremity being the thickest.

EXPLANATION OF PLATE VII.

- Figs. 1-3. *S. armigera* Say, Mohawk, N. Y.
 Figs. 4-6. *S. crassilabris* (Type), Hamtramck, Mich.
 Figs. 7-9. *S. wheatleyi* Lea, Princeton, Ala.